

Appl. No.: 08/905,971

of cassette holders disposed in said substrate transfer section, each for holding a cassette.

36. A substrate processing apparatus as recited in claim 1, further including a plurality of cassette holders disposed in said substrate transfer section, each for holding a cassette.--

#### **REMARKS**

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested. Claims 1-36 are pending in the application, claims 35 and 36 added by this Amendment. Claims 1 and 14 are independent.

#### **Entry of Amendment Requested**

Applicants respectfully request entry of this amendment by the Examiner since it raises no new issues; and the claims as amended and two added dependent claims do not require any further consideration or search by the Examiner. Further, Applicants submit that, at the least, the amendment should be entered since it reduces the number of substantive and/or formal issues to place the application in better form for appeal.

#### **35 U.S.C. §103(a) Rejections**

##### **1. Claims 1-4, 7-16 and 20-25 and 27-24.**

Claims 1-4, 7-16 and 20-25 and 27-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tateishi et al. (U.S. Patent No. 4,405,435) in view of Takagi (JP 2-152251). This rejection is respectfully traversed and is inapplicable to claims 35 and 36 as set forth below.

Initially, Applicants respectfully submit that neither Tateishi nor Takagi teach or suggest a structure where a plurality of modules are piled up, adjacent to, but separate from one another, as in claimed in claims 1 and 14. This is simply not disclosed in the references.

Secondly, in the present application both the first and second substrate transfer devices are a device “for transferring a substrate or substrates”. In Takagi, what allegedly corresponds to the second substrate transfer device is arguably some device that transfer substrates. However, Takagi does not teach the first substrate device that is claimed. Takagi’s alleged first substrate transfer device is “a cassette elevator for vertically moving a cassette”. However, the first substrate transfer device of the present invention can transfer a substrate from a cassette into the module. This is not possible in Takagi, Takagi can only vertically move the cassette elevator to carry a cassette to any position step.

The first substrate transfer device of the present invention can take out a substrate from a cassette or cassettes (one kind or a plurality of kinds) for products, a cassette for monitoring, a cassette for dummies, etc., and transfer it to the module. However, in Takagi, cassettes must be replaced every time the kind of substrate to be required is changed, resulting in not only complicated apparatus operations, but also lower throughput. The present invention does not have such problems.

Furthermore, in the present invention, when a plurality of cassettes of the same kind are used, the plurality of cassettes are pre-stocked in the apparatus, and the substrates are transferred from the pre-stocked cassettes. This saves the trouble of carrying the cassette into the apparatus each time, thus improving operational efficiency of the apparatus. Accordingly, neither Tateishi

nor Takagi disclose the claimed first substrate transfer device for transferring a substrate or substrates from cassettes to modules.

Turning to the Examiner's argument, the Examiner still misunderstands Takagi. Beginning with page 10 of the Office Action,

"Takagi is cited for: a plurality of detachably (first paragraph, page 11) attached modules (items 14/2/3, Figure 1; certified STIC translation, pages 10-12.

However, items 14 are not detachably attached modules. Items 14 are wafer transportation mechanisms (robots) provided in the transportation mechanism-side, together with a cassette elevator (pages 12 to 13 of the certified STIC translation). Therefore, Takagi fails to disclose an apparatus comprising a plurality of modules each having a substrate transfer device, the plurality of modules being detachably attached to a substrate transfer section and piled up, adjacent to, but spaced separately from one another.

The Examiner alleges on page 11 of the Office Action that the above feature it is within the scope of the Tateishi et al apparatus (Figure 4), where chambers 53-55 are "transfer modules" and chamber 52 is a "transfer section". The Examiner also states:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Tateishi et al substrate processing apparatus by implementing the Mikio Takagi substrate processing apparatus hermetically configured exhibiting modules piled up separately in a substantially vertical direction.

Motivation for such design alteration of the Tateishi et al substrate processing apparatus is provided by Mikio Takagi. Specifically, "to reduce a floor area and to easily install more systems (... "modules being detachable attached. . .")" which is centered on reducing the clean room foot print in order to reduce operating costs ( See "Purpose of IDS document abstract.)".

But reviewing Tateishi in further detail, the chamber 52 and the chambers 53-55 are arranged in the sealed casing 51 in the direction of movement of a base plate 3 to be treated (column 5, lines 42-48). The base plate 3 is transferred from the chamber 52 to chamber 55 by the conveyor belts 65, 66, 72, 73, 78, 78 87 and 88 in a straight line in a transverse direction. That is, each alleged transfer module 53-55 requires one chamber 52 in a straight line in a transverse direction, chambers 52, 53-55 being arranged in the sealed casing 51.

Accordingly, even if arguendo Tateishi could be modified by implementing the Mikio Takagi substrate processing apparatus with hermetically configured exhibiting modules piled up separately in a substantially vertical direction, as the Examiner alleges, for the purpose of reducing floor area and to easily install more systems, there could be obtained, at best, an apparatus wherein a plurality of sealed cases 51, each having chambers 52 (alleged transfer section) and chambers 53-55 (alleged transfer modules), are piled up separately in a substantially vertical direction.

That is, the proposed combination would include a plurality of transfer sections each for transferring substrates to the transfer section of the same height. The apparatus according to the present invention, which has a first substrate transfer device provided in a substrate transfer section for transferring substrates to the plurality of modules, could not be possible or attained with the proposed modification. In view of the above reasons, Applicants submit that claims 1 and 14 are not obvious over the cited references, and kindly request withdrawal of the rejection.

2. Claims 5, 6, 17 and 18.

Claims 5, 6, 17 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tateishi et al. and Takagi in view of Lee (U.S. Patent No. 5,616,718). This rejection is respectfully traversed.

Applicant submits that Lee fails to remedy the deficiencies of Tateishi et al. and Takagi with respect to independent claims 1 and 14. As such, claims 5, 6, 17 and 18 are allowable by virtue of their dependency, as well as on their own merits. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

3. Claim 19.

Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tateishi et al. and Takagi in view of Yamazaki. This rejection is respectfully traversed.

Applicant submits that Yamazaki fails to remedy the deficiencies of Tateishi et al. and Takagi with respect to independent claims 1 and 14. As such, claim 19 is allowable by virtue of their dependency, as well as on their own merits. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**CONCLUSION**

In view of the above amendments and remarks, Applicants submit that the application is in condition for allowance. A favorable action regarding each of claims 1-36 in the form of a Notice of Allowance is earnestly solicited.

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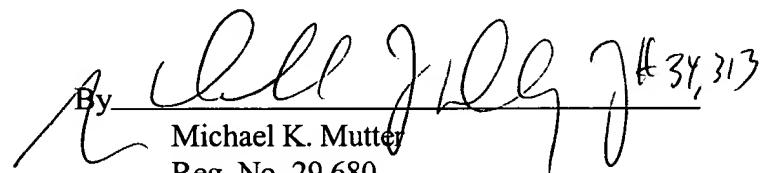
In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Matthew J. Lattig (Reg. No. 45,274) at (703) 205-8000 in the Washington, D.C. area, to discuss this application.

Pursuant to the provisions of 37 C.F.R. 1.17 and 1.136(a), Applicants hereby petition for an extension of three (3) months July 17, 2001 in which to file a response to the outstanding Office Action. The required fee of \$890.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

  
By \_\_\_\_\_

Michael K. Mutter  
Reg. No. 29,680  
P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

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Attachment: Marked-Up Claim 34.

**Marked-Up Claim**

Claim 34 was amended as follows:

34. (Amended) A substrate processing apparatus as recited in claim [1] 14, wherein the apparatus is configured to transfer a plurality of substrate at a time and to process a plurality of substrate at a time.